

1 **What is claimed is:**

2 1. A stator comprising:

3 a bobbin having an axial winding wound therearound;

4 plural pole plates each having a pole end, each said pole end having a
5 pole face; and

6 an axle tube extending through the bobbin and said plural pole plates,
7 the axle tube conducting magnetic flux created by the winding to said
8 plural pole plates;

9 a half of said plural pole plates being mounted on top of the bobbin
10 and another half of said plural pole plates being mounted to a bottom of
11 the bobbin, the number of the half of said plural pole plates mounted on
12 top of the bobbin being not less than two, the number of the half of said
13 plural plates mounted to the bobbin being not less than two, thereby
14 increasing magnetization, reducing magnetic flux leakage, and gaining
15 effective guided overall magnetic flux by means of increasing an overall
16 thickness for effectively conducting the magnetic flux to said plural pole
17 plates.

18 2. The stator as claimed in claim 1, wherein there are two pole plates
19 mounted to each of the top and the bottom of the bobbin to thereby form a
20 stator having four poles.

21 3. The stator as claimed in claim 1, wherein there are three pole plates
22 mounted to each of the top and the bottom of the bobbin to thereby form a
23 stator having six poles.

24 4. The stator as claimed in claim 1, wherein the pole face of each of said
25 plural pole plates extends along a plane perpendicular to a general plane of
26 the respective pole plate.

1 5. The stator as claimed in claim 1, wherein the pole face of each of said
2 plural pole plates includes an inclined side.

3 6. The stator as claimed in claim 1, wherein the pole face of each of said
4 plural pole plates is a trapezoid.

5 7. A stator comprising:

6 a bobbin having an axial winding wound therearound;

7 plural pole plates each having two diametrically disposed pole ends,
8 each said pole end having a pole face; and

9 an axle tube extending through the bobbin and said plural pole plates,
10 the axle tube conducting magnetic flux created by the winding to said
11 plural pole plates;

12 a half of said plural pole plates being mounted on top of the bobbin
13 and another half of said plural pole plates being mounted to a bottom of
14 the bobbin, the number of the half of said plural pole plates mounted on
15 top of the bobbin being not less than two, the number of the half of said
16 plural plates mounted to the bobbin being not less than two, thereby
17 increasing magnetization, reducing magnetic flux leakage, and gaining
18 effective guided overall magnetic flux by means of increasing an overall
19 thickness for effectively conducting the magnetic flux to said plural pole
20 plates.

21 8. The stator as claimed in claim 7, wherein there are two pole plates
22 mounted to each of the top and the bottom of the bobbin to thereby form a
23 stator having eight poles.

24 9. The stator as claimed in claim 7, wherein the pole face of each of said
25 plural pole plates extends along a plane perpendicular to a general plane of
26 the respective pole plate.

10. The stator as claimed in claim 7, wherein the pole face of each of said plural pole plates includes an inclined side.

11. The stator as claimed in claim 7, wherein the pole face of each of said plural pole plates is a trapezoid.

TOWERS & TOWN